

Product Safety and Regulatory Compliance Summary

The purpose of this document is to help provide background information on product safety and regulatory subjects pertinent to Turck. This should help to explain the relationship between OSHA (Occupational Safety and Health Administration), 3rd Party approval companies known as NRTL's (Nationally Recognized Testing Laboratories) and why these exist. This document will touch on background information on CE ("*conformité européenne*" French for "European conformity") and the related UKCA marking now required for the United Kingdom.

OSHA (Occupational Safety and Health Administration) is the US Government's organization which addresses and manages workplace safety requirements and guidelines for employers. OSHA adopts and approves various safety standards as ANSI (American National Standards Institute) Standards. These standards help to regulate and provide consistent requirements across various environments and operating situations. These standards ensure electrical product safety is consistent along with flammability requirements for products. These regulatory requirements also ensure manufacturers are held to the same requirements for personnel safety. These ANSI standards work in unison with the CFR (Code of Federal Regulations) Title 29 – Labor, specifically workplace safety. Together they outline and put in place a set of general and permanent rules published in the *Federal Register* by the executive departments and agencies of the Federal Government.

NRTL's (Nationally Recognized Testing Laboratories) are independent 3rd party testing labs. NRTL labs are audited annually, and then recertified by OSHA to Laboratory guidelines outlined in ISO25. This is how they maintain their official NRTL status. Examples of these OSHA approved NRTLs are UL, TUV, CSA, MET, ETL, FM, etc... (<https://www.osha.gov/nationally-recognized-testing-laboratory-program>) The NRTL testing laboratories each perform testing and product certification to ANSI Standards. Contrary to some belief, not all ANSI standards are 'UL' Standards. Many are written by other organizations covering safety to materials and even product performance standards. <https://webstore.ansi.org/info/sdolist>

Many USA NRTL labs also have accreditations with Canada. There are agreements in place with the Canadian standards association for safety standards which are adopted by the Canadian government (CFR/ANSI equivalents). This makes approval work with these agencies easier to obtain both USA and Canadian certifications.

The NEC (National Electrical Code) is a National Standard published by the National Fire Protection Agency (NFPA 70 is the official title of the NEC) This is a set of rules and guidelines adopted by all 50 states for electrical safety, wiring and installation practices. <https://www.nfpa.org/nec/>

CE is a European marking and product requirement. It involves both product safety and environmental requirements (RoHS and REACH). CE marking also includes the EU EMC (Electrical Magnetic Compatibility) requirements for emissions and immunity from radio frequency interferences. CE is a self-certified program for ordinary location products. CE marking for Hazardous Locations requires that a EU based approved Notified Body evaluates and tests all products intended for use in Hazardous location. Manufacturers make formal signed statements of conformity to the EN (European Norm standards – these are based primarily on IEC standards). Improper documentation and testing reports not being held in company technical files, can result in fines even jail if it is done negligently and/or without due diligence or any efforts to comply with the requirements. CE marking also includes the EU EMC (Electrical Magnetic Compatibility) and EU environmental standard such as RoHS and REACH.

UKCA is a new mark for the United Kingdom. As a result of political changes of Brexit, the UK is no longer officially part of Europe Union. The UKCA requirements however are currently based 100% on the CE markings. The UK simply adopted the European Union standards and made them their own documents. Subject to changes in the future that may differentiate them from EU standards.

We hope this helps to explain some of the terminology, acronyms, and reasons and relationships between the organizations and the rule makers.

Best Regards,

Product Compliance and Approvals Engineering Staff
Turck

5025 Cheshire Ave North | Plymouth, MN 55446
Direct: +1 763-553-7464
Toll Free: 1-800-544-7769 | Fax: 763-509-7855